DETAILED ACTION

1.   This Office Action incorporates an <u>Examiner's Amendment</u> and <u>Reasons For</u>

<u>Allowance</u>.

2.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

7/28/2008 has been entered.

3.   The application has pending claim(s) 1 and 3-20.

EXAMINER'S AMENDMENT

4.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

        Authorization for this examiner's amendment was given in a telephone interview

with Mr. Dirk Brinkman on 9/17/2008.

        <u>The application has been amended as follows:</u>

For the claims on pages 2-5 of the Applicant's Request For Continued

Examination (RCE) dated 7/28/2008:

1. Please further amend claims 1, 7-9, 12-17 and 20 as shown below.

Claim 1: (currently amended) A method for processing a compressed input video,

comprising:

decoding the compressed input video to produce pixels of an interlaced picture,

the interlaced picture having a first spatial resolution, and a top-field and a bottom-field;

producing, for each macroblock of pixels in the interlaced picture, a macroblock

coding type, in which the macroblock coding type includes a macroblock motion type

and a macroblock transform type;

filtering adaptively the top-field and the bottom-field of the interlaced picture

according to the macroblock coding type and the macroblock transform type to produce

a progressive picture with a second spatial resolution less than the first spatial

resolution, in which the filtering jointly performs de-interlacing and downsampling of the

interlaced picture;

wherein, the filtering includes frame-based filtering and field-based filtering, in

which the filtering is frame-based when the macroblock coding type is inter-coding and

the macroblock motion type is frame-based, and an absolute value of motion vectors

corresponding to the macroblock are greater than a threshold; and

encoding the progressive picture.

Claim 7: (cancelled)

Claim 8: (currently amended) The method of ~~claim 7~~ claim 1, in which the filtering is field-based when the macroblock coding type is inter-coding and the macroblock motion type is field-based.

Claim 9: (currently amended) The method of ~~claim 7~~ claim 1, in which the filtering is field-based when the macroblock coding type is inter-coding, the macroblock motion type is frame-based, and an absolute value of motion vectors corresponding to the macroblock are less than or equal to a threshold.

Claim 12: (currently amended) The method of ~~claim 7~~ claim 1, in which the filtering is field-based when the macroblock coding type is intra-coding and the macroblock transform type is field-based.

Claim 13: (currently amended) The method of ~~claim 7~~ claim 1, in which the filtering is frame-based when the macroblock coding type is intra-coding and the macroblock transform type is frame-based.

Claim 14: (cancelled)

Claim 15: (currently amended) The method of ~~claim 7~~ claim 1, in which the filtering is

frame-based and operates on input samples from the top-field and bottom-field of the

interlaced picture.

Claim 16: (currently amended) The method of ~~claim 7~~ claim 1, in which the filtering is

field-based and operates on input samples from the top-field or bottom-field.

Claim 17: (currently amended) The method of ~~claim 7~~ claim 1, in which the filtering is

field-based and operates on input samples from the bottom-field.

Claim 20: (currently amended) A system for processing a compressed input video,

comprising:

      means for decoding the compressed input video to produce pixels of an

interlaced picture, and producing, for pixels of each macroblock, a macroblock coding

type, in which the macroblock coding type includes a macroblock motion type and a

macroblock transform type, the interlaced picture having a first spatial resolution, and a

top-field and a bottom-field;

      means for filtering adaptively the top-field and the bottom-field of the interlaced

picture according to the macroblock coding type and the macroblock transform type to

produce a progressive picture with a second spatial resolution less than the first spatial

resolution, in which the filtering jointly performs de-interlacing and downsampling of the

interlaced ~~picture; and~~ picture, wherein, the filtering includes frame-based filtering and

field-based filtering, in which the filtering is frame-based when the macroblock coding

type is inter-coding and the macroblock motion type is frame-based, and an absolute

value of motion vectors corresponding to the macroblock are greater than a threshold;

and

an encoder configured to compress the progressive picture.

REASONS FOR ALLOWANCE

5.   The following is an examiner's statement of reasons for allowance:

Independent claims 1 and 20 are allowable over the prior art of record. Claims 3-

6, 8-13, and 15-19 depend from claim 1 respectively and therefore are allowed.

Independent claims 1 and 20 respectively recite the limitations: producing, for

each macroblock of pixels in the interlaced picture, a macroblock coding type, in which

the macroblock coding type includes a macroblock motion type and a macroblock

transform type; filtering adaptively the top-field and the bottom-field of the interlaced

picture according to the macroblock coding type and the macroblock transform type to

produce a progressive picture, in which the filtering jointly performs de-interlacing and

downsampling of the interlaced picture; in which the filtering is frame-based when the

macroblock coding type is inter-coding and the macroblock motion type is frame-based,

and an absolute value of motion vectors corresponding to the macroblock are greater

than a threshold.

The combination of these features as cited in the claims in combination with the

other limitations of the claims are neither disclosed nor suggested by the prior art of

record.

The closest reference Alvarez et al. (US 6,898,243 B1) discloses down-

conversion de-interlacing techniques for video inputs. However, Alvarez does not teach

the limitations cited above.

Any comments considered necessary by applicant must be submitted no later

than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kim et al discloses a method for decoding HDTC video using DCT type and motion type.

7.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Krasnic whose telephone number is (571) 270-1357. The examiner can normally be reached on Mon-Thur 8:00am-4:00pm and every other Friday 8:00am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jingge Wu/
Supervisory Patent Examiner, Art Unit 2624
Bernard Krasnic
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